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A964
JACC April 1, 2014
Volume 63, Issue 12

Heart Failure and Cardiomyopathies

RESPONSE TO CARDIAC RESYNCHRONIZATION THERAPY IN HEART FAILURE PATIENTS WITH AND WITHOUT PREVIOUS RIGHT VENTRICULAR PACING

Poster Contributions
Hall C
Monday, March 31, 2014, 9:45 a.m.-10:30 a.m.

Session Title: Heart Failure and Cardiomyopathies: Prognostic Factors and Determinants of Outcomes in Heart Failure Patients
Abstract Category: 12. Heart Failure and Cardiomyopathies: Clinical
Presentation Number: 1261-201

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Background: Right ventricular pacing (RVp) results in a left bundle branch block with dyssynchrony and heart failure (HF) in some patients. Echocardiographic and long-term clinical outcomes of HF patients upgraded from RVp to cardiac resynchronization therapy (CRT) are not well documented, as these patients are frequently excluded from large multi-center studies.

Methods: An observational study assessed 655 consecutive patients (190 with RVp ≥ 40%) with QRS ≥ 120 ms and left ventricular (LV) ejection fraction (EF) ≤ 35%. Echocardiograms were read for EF and end-systolic volume (ESV). Death and HF hospitalizations were analyzed (mean follow-up of 4.2 ± 2 years) using a Cox proportional hazard model adjusted for baseline variables.

Results: Previous RVp patients had smaller LV ESV (p<0.01) and were older at baseline (p<0.01). Similar EF, proportion of ischemic etiology (59%), and serum creatinine were observed. Greater EF response was achieved in the RVp group (p<0.01) with a greater proportion (64 vs 50%, p<0.01) increasing EF ≥ 5 units. Previously RVp patients had an adjusted 33% reduction in the risk of death or HF hospitalization (hazard ratio: 0.67 (95% confidence interval: 0.51-0.88) p<0.01).

Conclusions: Despite similar EF pre-CRT, patients with prior RVp have significantly smaller LVESV, and respond better to CRT with greater improvement in EF and lower rate of death or HF hospitalization.

Clinical and Echocardiographic Characteristics			
Characteristic	RVp (n=190)	Not RVp (n=465)	p-value
Age (years)	73 ± 11	69 ± 12	<0.01
Ischemic (%)	59	59	0.93
Creatinine (mg/dL)	1.47 ± 0.7	1.43 ± 0.9	0.57
CRT-D (%)	79	90	<0.01
EF (%)	27 ± 5	27 ± 6	0.88
LVESV (mL)	111 ± 48	125 ± 55	<0.01
Δ EF (units)	8 ± 9	6 ± 9	<0.01
Δ LVESV (mL)	-26 ± 37	-23 ± 43	0.59
Δ EF ≥ 5 (%)	64	50	<0.01